



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO ATTENTION OF
ECW-15J

VIA ELECTRONIC MAIL

Mayor Curtis McCall Sr.
City of Cahokia Heights
103 Main Street
Cahokia, Illinois 62206
ymccall@cahokiaillinois.org

Subject: August 16, 2021, Administrative Order on Consent ("Order") – Disapproval of Wet-Weather SSO Investigative Plan (paragraph 48.D.)

Dear Mayor McCall:

Thank you for submitting the August 15, 2022 Wet-Weather SSO Investigation Plan ("Plan") pursuant to paragraph 48.D. of the above-referenced Order. EPA reviewed the Plan and determined that it fails to meet the Order's requirements outlined in paragraph 48.D. Based on this review, EPA hereby disapproves the August 15, 2022 Wet-Weather SSO Investigation Plan. Specific comments regarding Plan deficiencies are enclosed.

Please submit a revised Wet-Weather SSO Investigation Plan within 30 days after your receipt of this letter. The revised Plan must address each of the requirements included in paragraph 48.D. of the Order, and each of the enclosed comments.

Thank you for your efforts to bring the City into compliance with the Clean Water Act. If you have any questions or concerns regarding this letter, please contact Dean Maraldo of my staff at (312) 353-2098 or maraldo.dean@epa.gov, or your legal counsel may contact Lauren Grady at (202) 598-1866 or lauren.grady@usdoj.gov.

We look forward to receiving your response.

Sincerely,

Michael D. Harris
Director
Enforcement and Compliance Assurance Division

Enclosure: EPA comments on the August 15, 2022, Wet-Weather SSO Investigation Plan

cc: James Nold, Hurst-Rosche [jnold@hurst-rosche.com]
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EPA Comments - August 15, 2022, Wet-Weather SSO Investigation Plan

General Comments

Wet-Weather SSO Investigation Plan Scope: the Known Surface Water Drainage Problem Areas section (page 4) of the Wet-Weather SSO Investigation Plan (“Plan”) describes six areas with chronic water drainage areas. The areas are referred to as “the starting point and focus of the investigation plan going forward, and as further described herein.” However, it is unclear if the Plan limits the Wet-Weather SSO Investigation (“investigation”) to those six areas. There are chronic SSO in other areas of Cahokia Heights and the Investigation must address all areas with chronic SSOs. The Plan also states that “much of the investigative work to determine and prioritize the work and projects to repair the system and protect against future SSOs and backups has either already been done or is under way, albeit somewhat reactively, not altogether proactively” (page 7). There is no other information regarding investigations in specific areas of the City. As a result, it is difficult to assess what areas the City plans to investigate under this Plan.

To address this concern, revise the Plan so that the entire City sewer system is broken down into investigation areas, such as sewersheds or sewer sub-districts. Include maps of all investigation areas covering the entire sewer system in the Plan. For each investigation area, indicate if all investigation work is 1) already completed, 2) partially completed, 3) scheduled, or 4) not required. Also include the following information:

1) for each area where investigations are considered completed: briefly summarize the investigatory work (type, dates, etc.) leading to the determination that investigation work is complete, and if the area is considered a priority area for sewer rehabilitation and why. Completed investigatory work should include sufficient information to support condition assessments and categorization, pursuant to paragraph 48.D.a. of the Order (e.g., very good, fair, very poor), for sewers and manholes (see attached examples). Each area in this category should have a map identifying areas of compromised sewers and estimated percentage of flow restriction pursuant to the requirements in paragraph 48.D.a.vi. of the Order.

2) for each area where investigations are considered partially completed: briefly summarize the investigatory work (type, dates, etc.) completed to date, and describe remaining investigation work, including type and schedule. For each area, describe how completed and planned investigation work will meet requirements of paragraph 48.D.a.i-vi. of the Order. If the City believes an area in the “partially completed” category is a priority area, based on work completed to date, please include a detailed rationale, and include a sewer and manhole condition assessment and categorization, pursuant to paragraph 48.D.a. of the Order.

3) for each area where investigations are scheduled: describe the investigation plan for each area, including work type and schedule, addressing each element under paragraph 48.D.a.i-vi. of the Order.

4) for each area where investigations are not required: explain why investigation is not needed.

Identification of Sources of Clear Water: paragraph 48.D.a.v. of the Order requires identification of sources of clear water entry into the sewer system, and estimated levels of contribution. Describe how this requirement will be met.

Detailed Schedules and Milestones: paragraph 48.D.a.viii. of the Order requires detailed schedules and milestones to complete the Wet-Weather SSO investigation. The Plan includes milestones for pump station and sewer rehab work, and general milestones for Wet-Weather SSO investigation work. Please revise the schedule to include detailed scheduled and milestone for investigation tasks, pursuant to paragraph 48.D.a.viii. of the Order. The schedule should include milestones for completion of tasks in each of the investigation areas, covering the entire City sewer system.

Detailed Cost Estimates: paragraph 48.D.a.viii. of the Order requires detailed cost estimates to complete the Wet-Weather SSO investigation. The Plan included a list of grants from various federal, state, and local agencies, but it is not clear what portion of any of these grants will fund the Wet-Weather SSO investigation. Please submit detailed cost estimates to complete only the Wet-Weather SSO investigation, as required pursuant to paragraph 48.D.a.viii.

Specific Comments

Visual Inspections, page 7: please clarify if the City intends to inspect all manholes in each investigation area and complete a Manhole Inspection Report for each inspected manhole.

Flow Monitoring, page 7: for each investigation area, please include the planned number and location of flow meters, along with estimated duration of use. Include flow monitoring locations on the area maps, if known.

Smoke Testing, page 7: for each investigation area, please include the planned scope of smoke testing (e.g., percentage of sewer in the area, or linear feet of sewer). Include smoke testing locations on the area maps, if known.

CCTV, page 8: for each investigation area, please include the planned scope of CCTV use (e.g., percentage of sewer in the area, or linear feet of sewer). Include CCTV locations on the area maps, if known. Please note the potential for additional CCTV work in any of the investigation areas that include any of the 22 sewer break repairs scheduled under the IEPA-funded Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration project.

Drainage Problem Area Maps: Appendix A of the Plan included a map of six drainage problem areas. If these are priority areas, then the map should be labelled as such.

Drainage Problem Area Sewer Maps: Appendix B of the Plan included five “drainage problem area sewer maps”. As discussed above, there are chronic SSOs in other areas of Cahokia Heights and the investigation plan must address all areas with chronic SSOs and include maps delineating

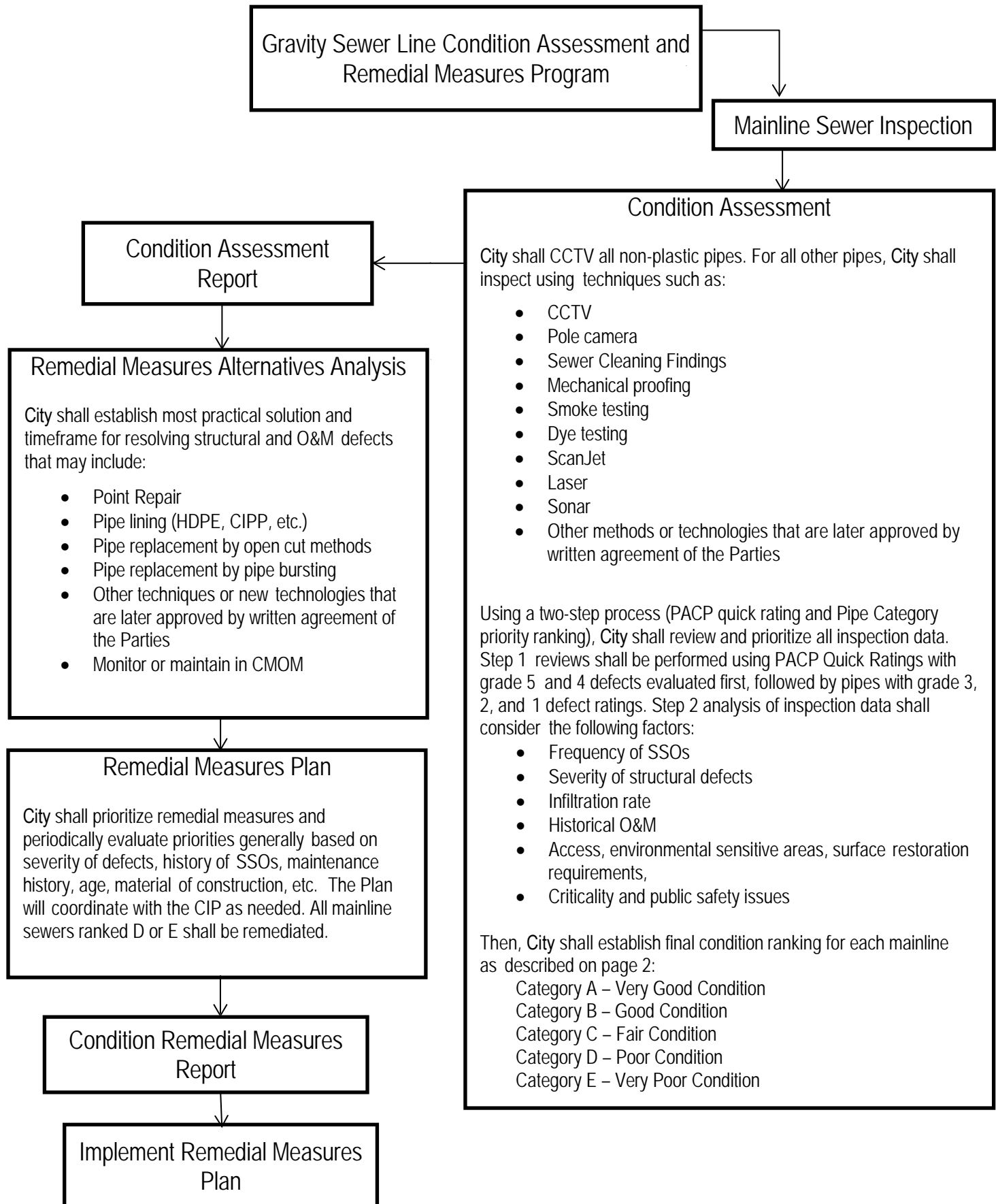
all investigation areas. If the City is able to identify priority areas, then the areas should be labelled as such on the maps.

Process Flow Chart: Appendix E includes a System Assessment Process Flow Chart. While this is useful information, the Plan should also include a process describing how investigation information will support sewer condition assessments and categorization (see attached examples), which will inform rehabilitation options.

Example Sewer and Manhole Assessments and Categorization

Appendix "Example"

Gravity Sewer Line Condition Assessment and Remedial Measures Program



Mainline Inspection Condition Rating Category

A = Very Good

Minor defects are mostly cosmetic in nature and do not impact system hydraulics nor contribute to significant infiltration/inflow. Non-displaced cracks or minor material degradation. No active infiltration. Likely outcome in remedial measures plan: Maintenance Analysis as part of CMOM Activities.

B = Good

No significant structural defects. Minor defects do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration. Minor defects may include less than 10% deformation, minor corrosion, slightly open non-displaced cracks. Likely outcome in remedial measures plan: Maintenance Analysis as part of CMOM Activities.

C = Fair

No significant structural defects although minor defects were noted during inspection. System hydraulics are good and no significant infiltration/inflow sources noted. Nominal defects may include less than 25% deformation from structural deterioration combined with displaced fractures, moderate corrosion with no reinforcement visible. Likely outcome in remedial measures plan: Ongoing Monitoring or Maintenance Analysis as Part of CMOM Activities.

D = Poor

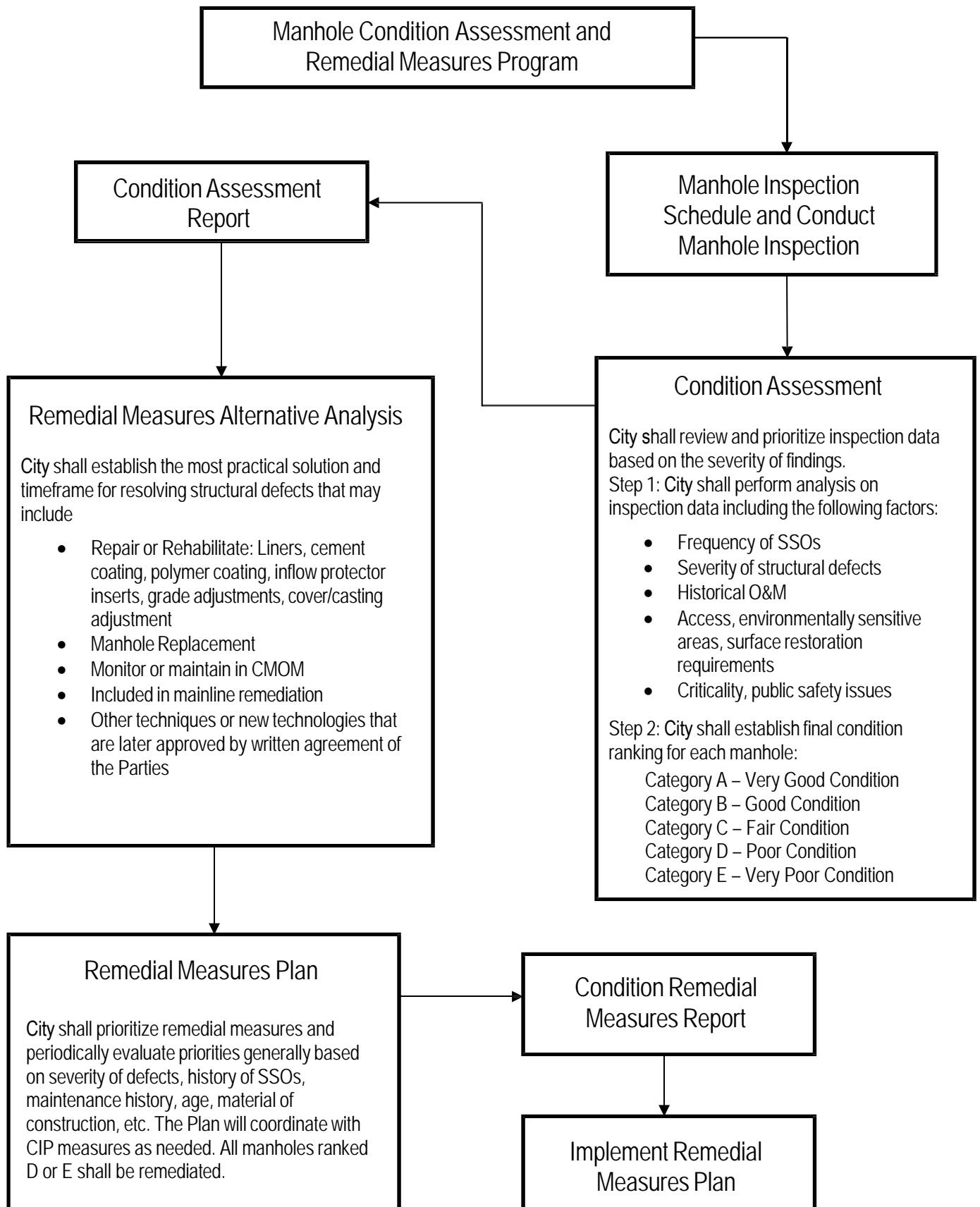
Moderate structural defects that may include missing pipe material, broken pipe, severe corrosion with exposed wall reinforcement, pipe deformation exceeding 25% from structural deterioration, voids, hinge cracks/fractures, etc. Likely outcome in remedial measures plan: Alternatives Analysis and Remediation.

E = Very Poor

Severe structural defects that may include potential for structural failure, severe root intrusion, broken/missing pipe material, and other defects that may impact system hydraulics or contribute to significant infiltration/inflow. Structural collapse or defects likely to cause SSO is imminent. Likely outcome in remedial measures plan: Alternatives Analysis and Remediation.

Appendix "Example"

Manhole Condition Assessment and Remedial Measures Program



Manhole Inspection Condition Rating Category

A = Very Good

Minor defects are mostly cosmetic in nature and do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration.

B = Good

Manhole has no significant structural defects. Minor defects do not impact system hydraulics nor contribute to significant infiltration/inflow. No active infiltration. Minor defects may include slightly loose casting, minor corrosion of metal surfaces, minor deterioration of concrete mortar between bricks, minor cracks, etc.

C = Fair

Manhole has no significant structural defects although minor defects were noted during inspection. System hydraulics are good and no significant infiltration/inflow sources noted. Light infiltration/inflow may be present. Nominal defects may include loose casting, nominal corrosion of metal surfaces, deterioration of concrete mortar between bricks or concrete walls, minor evidence of infiltration/inflow at precast joint sections, etc.

D = Poor

Manhole has moderate structural defects that may include cracks, loose bricks, separated casting, moderate root intrusion, broken cover and defects that may impact system hydraulics due to structural issues or contribute to significant infiltration/inflow. Some visible staining due to infiltration/inflow may be present. Active infiltration may have been observed. Moderate to severe defects may include loose casting, moderate to severe corrosion of metal surfaces, deterioration of concrete mortar between bricks, moderate to severe deterioration of precast wall sections and precast joint defects, etc. Manhole inspection was completed and the manhole will be addressed in the remediation plan.

E = Very Poor

Manhole may have severe structural defects that may include potential for structural failure, missing bricks, separated/broken casting, severe root intrusion, broken/missing cover and defects that may impact system hydraulics or contribute to significant infiltration/inflow. Visible staining due to infiltration/inflow may be present. Active infiltration may have been observed. Severe defects may include separated/broken casting/cover, severe corrosion of metal surfaces, missing mortar between bricks, etc. Manhole inspection was completed and the manhole will be addressed in the remediation plan or immediate repair may be warranted based on condition.

X = Additional Investigation Needed

Manhole inspection was not performed and additional follow-up is required. Manholes in this category will require additional efforts to facilitate inspection. This category of manholes includes those where access was denied by homeowner, no access due to locked gate, no access due to dog, homeowner would not return calls to gain access, obstacles over manhole preventing inspection, where property owner refused digging in yard, surcharged manholes that will require mainline cleaning, etc.